



Ursa Operating Company, LLC

Rockies Region

CSF I

CSF I 42C-16-07-91

Wellbore #1

Plan: Design #2

Standard Planning Report

24 July, 2016



| | | | |
|------------------|-----------------------------|-------------------------------------|--|
| Database: | MasterDB | Local Co-ordinate Reference: | Well CSF I 42C-16-07-91 |
| Company: | Ursa Operating Company, LLC | TVD Reference: | CSF I 42C-16-07-91 @ 7860.0usft (PAD Est KB) |
| Project: | Rockies Region | MD Reference: | CSF I 42C-16-07-91 @ 7860.0usft (PAD Est KB) |
| Site: | CSF I | North Reference: | True |
| Well: | CSF I 42C-16-07-91 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #2 | | |

| | | | |
|--------------------|---------------------------|----------------------|----------------|
| Project | Rockies Region | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | Colorado Central Zone | | |

| Site | | CSF I | | | |
|-----------------------|----------|--------------|-------------------|-------------------|-------------------|
| Site Position: | | Northing: | 1,597,123.56 usft | Latitude: | 39° 27' 17.600 N |
| From: | Lat/Long | Easting: | 2,420,307.03 usft | Longitude: | 107° 33' 11.391 W |
| Position Uncertainty: | 0.0 usft | Slot Radius: | 13-3/16 " | Grid Convergence: | -1.29 ° |

| | | | | | | |
|----------------------|--|-------------|---------------------|-------------------|---------------|-------------------|
| Well | CSF I 42C-16-07-91, SHL LAT: 39.453578842 LONG: -107.553039170 | | | | | |
| Well Position | +N/-S | -477.2 usft | Northing: | 1,596,645.71 usft | Latitude: | 39° 27' 12.884 N |
| | +E/-W | 35.3 usft | Easting: | 2,420,331.54 usft | Longitude: | 107° 33' 10.941 W |
| Position Uncertainty | | 0.0 usft | Wellhead Elevation: | 7,860.0 usft | Ground Level: | 7,845.0 usft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | Wellbore #1 | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2015 | 7/24/2016 | 9.59 | 65.65 | 51,647 |

| | | | | |
|--------------------------|--------------------------------|---------------------|----------------------|----------------------|
| Design | Design #2 | | | |
| Audit Notes: | | | | |
| Version: | Phase: | PROTOTYPE | Tie On Depth: | 0.0 |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) |
| | 0.0 | 0.0 | 0.0 | 164.59 |

| Plan Sections | | | | | | | | | | |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|------------------------|-----------------------|---------|------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target |
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1,200.0 | 0.00 | 0.00 | 1,200.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1,929.3 | 25.53 | 164.59 | 1,905.4 | -154.0 | 42.5 | 3.50 | 3.50 | 0.00 | 164.59 | |
| 5,321.6 | 25.53 | 164.59 | 4,966.6 | -1,563.3 | 430.9 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 6,050.9 | 0.00 | 0.00 | 5,672.0 | -1,717.3 | 473.4 | 3.50 | -3.50 | 0.00 | 180.00 | 42C-16-07-91 TGT |
| 8,282.9 | 0.00 | 0.00 | 7,904.0 | -1,717.3 | 473.4 | 0.00 | 0.00 | 0.00 | 0.00 | |

| | | | |
|------------------|-----------------------------|-------------------------------------|--|
| Database: | MasterDB | Local Co-ordinate Reference: | Well CSF I 42C-16-07-91 |
| Company: | Ursa Operating Company, LLC | TVD Reference: | CSF I 42C-16-07-91 @ 7860.0usft (PAD Est KB) |
| Project: | Rockies Region | MD Reference: | CSF I 42C-16-07-91 @ 7860.0usft (PAD Est KB) |
| Site: | CSF I | North Reference: | True |
| Well: | CSF I 42C-16-07-91 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #2 | | |

| Planned Survey | | | | | | | | | | |
|---------------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|--|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | |
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| 100.0 | 0.00 | 0.00 | 100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| 200.0 | 0.00 | 0.00 | 200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| 300.0 | 0.00 | 0.00 | 300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| 400.0 | 0.00 | 0.00 | 400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| 500.0 | 0.00 | 0.00 | 500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| 600.0 | 0.00 | 0.00 | 600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| 700.0 | 0.00 | 0.00 | 700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| 800.0 | 0.00 | 0.00 | 800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| 900.0 | 0.00 | 0.00 | 900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| 1,000.0 | 0.00 | 0.00 | 1,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| 1,100.0 | 0.00 | 0.00 | 1,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| Surface Casing | | | | | | | | | | |
| 1,200.0 | 0.00 | 0.00 | 1,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| Start Build 3.50 | | | | | | | | | | |
| 1,300.0 | 3.50 | 164.59 | 1,299.9 | -2.9 | 0.8 | 3.1 | 3.50 | 3.50 | 0.00 | |
| 1,400.0 | 7.00 | 164.59 | 1,399.5 | -11.8 | 3.2 | 12.2 | 3.50 | 3.50 | 0.00 | |
| 1,500.0 | 10.50 | 164.59 | 1,498.3 | -26.4 | 7.3 | 27.4 | 3.50 | 3.50 | 0.00 | |
| 1,600.0 | 14.00 | 164.59 | 1,596.0 | -46.9 | 12.9 | 48.6 | 3.50 | 3.50 | 0.00 | |
| 1,700.0 | 17.50 | 164.59 | 1,692.3 | -73.0 | 20.1 | 75.8 | 3.50 | 3.50 | 0.00 | |
| 1,800.0 | 21.00 | 164.59 | 1,786.7 | -104.8 | 28.9 | 108.7 | 3.50 | 3.50 | 0.00 | |
| 1,900.0 | 24.50 | 164.59 | 1,878.9 | -142.1 | 39.2 | 147.4 | 3.50 | 3.50 | 0.00 | |
| 1,929.3 | 25.53 | 164.59 | 1,905.4 | -154.0 | 42.5 | 159.8 | 3.50 | 3.50 | 0.00 | |
| Start 3392.3 hold at 1929.3 MD | | | | | | | | | | |
| 2,000.0 | 25.53 | 164.59 | 1,969.2 | -183.4 | 50.6 | 190.2 | 0.00 | 0.00 | 0.00 | |
| 2,100.0 | 25.53 | 164.59 | 2,059.5 | -225.0 | 62.0 | 233.3 | 0.00 | 0.00 | 0.00 | |
| 2,200.0 | 25.53 | 164.59 | 2,149.7 | -266.5 | 73.5 | 276.4 | 0.00 | 0.00 | 0.00 | |
| 2,300.0 | 25.53 | 164.59 | 2,239.9 | -308.0 | 84.9 | 319.5 | 0.00 | 0.00 | 0.00 | |
| 2,400.0 | 25.53 | 164.59 | 2,330.2 | -349.6 | 96.4 | 362.6 | 0.00 | 0.00 | 0.00 | |
| 2,500.0 | 25.53 | 164.59 | 2,420.4 | -391.1 | 107.8 | 405.7 | 0.00 | 0.00 | 0.00 | |
| 2,600.0 | 25.53 | 164.59 | 2,510.6 | -432.7 | 119.3 | 448.8 | 0.00 | 0.00 | 0.00 | |
| 2,700.0 | 25.53 | 164.59 | 2,600.9 | -474.2 | 130.7 | 491.9 | 0.00 | 0.00 | 0.00 | |
| 2,800.0 | 25.53 | 164.59 | 2,691.1 | -515.7 | 142.2 | 535.0 | 0.00 | 0.00 | 0.00 | |
| 2,900.0 | 25.53 | 164.59 | 2,781.4 | -557.3 | 153.6 | 578.1 | 0.00 | 0.00 | 0.00 | |
| 3,000.0 | 25.53 | 164.59 | 2,871.6 | -598.8 | 165.1 | 621.2 | 0.00 | 0.00 | 0.00 | |
| 3,100.0 | 25.53 | 164.59 | 2,961.8 | -640.4 | 176.5 | 664.3 | 0.00 | 0.00 | 0.00 | |
| 3,200.0 | 25.53 | 164.59 | 3,052.1 | -681.9 | 188.0 | 707.3 | 0.00 | 0.00 | 0.00 | |
| 3,300.0 | 25.53 | 164.59 | 3,142.3 | -723.5 | 199.4 | 750.4 | 0.00 | 0.00 | 0.00 | |
| 3,400.0 | 25.53 | 164.59 | 3,232.6 | -765.0 | 210.9 | 793.5 | 0.00 | 0.00 | 0.00 | |
| 3,500.0 | 25.53 | 164.59 | 3,322.8 | -806.5 | 222.3 | 836.6 | 0.00 | 0.00 | 0.00 | |
| 3,600.0 | 25.53 | 164.59 | 3,413.0 | -848.1 | 233.8 | 879.7 | 0.00 | 0.00 | 0.00 | |
| 3,700.0 | 25.53 | 164.59 | 3,503.3 | -889.6 | 245.2 | 922.8 | 0.00 | 0.00 | 0.00 | |
| 3,800.0 | 25.53 | 164.59 | 3,593.5 | -931.2 | 256.7 | 965.9 | 0.00 | 0.00 | 0.00 | |
| 3,900.0 | 25.53 | 164.59 | 3,683.8 | -972.7 | 268.1 | 1,009.0 | 0.00 | 0.00 | 0.00 | |
| 3,903.6 | 25.53 | 164.59 | 3,687.0 | -974.2 | 268.5 | 1,010.5 | 0.00 | 0.00 | 0.00 | |
| Williams Fork | | | | | | | | | | |
| 4,000.0 | 25.53 | 164.59 | 3,774.0 | -1,014.2 | 279.6 | 1,052.1 | 0.00 | 0.00 | 0.00 | |
| 4,100.0 | 25.53 | 164.59 | 3,864.2 | -1,055.8 | 291.0 | 1,095.2 | 0.00 | 0.00 | 0.00 | |
| 4,200.0 | 25.53 | 164.59 | 3,954.5 | -1,097.3 | 302.5 | 1,138.3 | 0.00 | 0.00 | 0.00 | |
| 4,300.0 | 25.53 | 164.59 | 4,044.7 | -1,138.9 | 313.9 | 1,181.3 | 0.00 | 0.00 | 0.00 | |
| 4,400.0 | 25.53 | 164.59 | 4,135.0 | -1,180.4 | 325.4 | 1,224.4 | 0.00 | 0.00 | 0.00 | |
| 4,500.0 | 25.53 | 164.59 | 4,225.2 | -1,222.0 | 336.8 | 1,267.5 | 0.00 | 0.00 | 0.00 | |

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| Project: | Rockies Region | MD Reference: | CSF I 42C-16-07-91 @ 7860.0usft (PAD Est KB) |
| Site: | CSF I | North Reference: | True |
| Well: | CSF I 42C-16-07-91 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #2 | | |

Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 4,600.0 | 25.53 | 164.59 | 4,315.4 | -1,263.5 | 348.3 | 1,310.6 | 0.00 | 0.00 | 0.00 |
| 4,700.0 | 25.53 | 164.59 | 4,405.7 | -1,305.0 | 359.7 | 1,353.7 | 0.00 | 0.00 | 0.00 |
| 4,800.0 | 25.53 | 164.59 | 4,495.9 | -1,346.6 | 371.2 | 1,396.8 | 0.00 | 0.00 | 0.00 |
| 4,900.0 | 25.53 | 164.59 | 4,586.2 | -1,388.1 | 382.6 | 1,439.9 | 0.00 | 0.00 | 0.00 |
| 5,000.0 | 25.53 | 164.59 | 4,676.4 | -1,429.7 | 394.1 | 1,483.0 | 0.00 | 0.00 | 0.00 |
| 5,100.0 | 25.53 | 164.59 | 4,766.6 | -1,471.2 | 405.5 | 1,526.1 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 25.53 | 164.59 | 4,856.9 | -1,512.8 | 417.0 | 1,569.2 | 0.00 | 0.00 | 0.00 |
| 5,300.0 | 25.53 | 164.59 | 4,947.1 | -1,554.3 | 428.4 | 1,612.3 | 0.00 | 0.00 | 0.00 |
| 5,321.6 | 25.53 | 164.59 | 4,966.6 | -1,563.3 | 430.9 | 1,621.6 | 0.00 | 0.00 | 0.00 |
| Start Drop -3.50 | | | | | | | | | |
| 5,400.0 | 22.78 | 164.59 | 5,038.1 | -1,594.2 | 439.4 | 1,653.6 | 3.50 | -3.50 | 0.00 |
| 5,500.0 | 19.28 | 164.59 | 5,131.5 | -1,628.8 | 449.0 | 1,689.5 | 3.50 | -3.50 | 0.00 |
| 5,600.0 | 15.78 | 164.59 | 5,226.8 | -1,657.8 | 457.0 | 1,719.6 | 3.50 | -3.50 | 0.00 |
| 5,700.0 | 12.28 | 164.59 | 5,323.8 | -1,681.2 | 463.4 | 1,743.9 | 3.50 | -3.50 | 0.00 |
| 5,800.0 | 8.78 | 164.59 | 5,422.1 | -1,698.8 | 468.3 | 1,762.2 | 3.50 | -3.50 | 0.00 |
| 5,900.0 | 5.28 | 164.59 | 5,521.3 | -1,710.6 | 471.5 | 1,774.4 | 3.50 | -3.50 | 0.00 |
| 6,000.0 | 1.78 | 164.59 | 5,621.1 | -1,716.5 | 473.2 | 1,780.6 | 3.50 | -3.50 | 0.00 |
| 6,050.9 | 0.00 | 0.00 | 5,672.0 | -1,717.3 | 473.4 | 1,781.3 | 3.50 | -3.50 | 0.00 |
| Back to Vertical - Start 2232.0 hold at 6050.9 MD - Top of Gas | | | | | | | | | |
| 6,100.0 | 0.00 | 0.00 | 5,721.1 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| 6,200.0 | 0.00 | 0.00 | 5,821.1 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| 6,300.0 | 0.00 | 0.00 | 5,921.1 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| 6,400.0 | 0.00 | 0.00 | 6,021.1 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| 6,500.0 | 0.00 | 0.00 | 6,121.1 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| 6,600.0 | 0.00 | 0.00 | 6,221.1 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| 6,700.0 | 0.00 | 0.00 | 6,321.1 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| 6,800.0 | 0.00 | 0.00 | 6,421.1 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| 6,900.0 | 0.00 | 0.00 | 6,521.1 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| 6,902.9 | 0.00 | 0.00 | 6,524.0 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| Cameo | | | | | | | | | |
| 7,000.0 | 0.00 | 0.00 | 6,621.1 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| 7,100.0 | 0.00 | 0.00 | 6,721.1 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| 7,200.0 | 0.00 | 0.00 | 6,821.1 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| 7,300.0 | 0.00 | 0.00 | 6,921.1 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| 7,400.0 | 0.00 | 0.00 | 7,021.1 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| 7,500.0 | 0.00 | 0.00 | 7,121.1 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| 7,600.0 | 0.00 | 0.00 | 7,221.1 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| 7,700.0 | 0.00 | 0.00 | 7,321.1 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| 7,800.0 | 0.00 | 0.00 | 7,421.1 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| 7,900.0 | 0.00 | 0.00 | 7,521.1 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| 7,982.9 | 0.00 | 0.00 | 7,604.0 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| Rollins | | | | | | | | | |
| 8,000.0 | 0.00 | 0.00 | 7,621.1 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| 8,100.0 | 0.00 | 0.00 | 7,721.1 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| 8,200.0 | 0.00 | 0.00 | 7,821.1 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| 8,282.9 | 0.00 | 0.00 | 7,904.0 | -1,717.3 | 473.4 | 1,781.3 | 0.00 | 0.00 | 0.00 |
| TD at 8282.9 | | | | | | | | | |

| | | | |
|------------------|-----------------------------|-------------------------------------|--|
| Database: | MasterDB | Local Co-ordinate Reference: | Well CSF I 42C-16-07-91 |
| Company: | Ursa Operating Company, LLC | TVD Reference: | CSF I 42C-16-07-91 @ 7860.0usft (PAD Est KB) |
| Project: | Rockies Region | MD Reference: | CSF I 42C-16-07-91 @ 7860.0usft (PAD Est KB) |
| Site: | CSF I | North Reference: | True |
| Well: | CSF I 42C-16-07-91 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #2 | | |

Design Targets

Target Name

| - hit/miss target | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
|---|---------------|--------------|------------|--------------|--------------|-----------------|----------------|------------------|------------------|
| - Shape | | | | | | | | | |
| 42C-16-07-91 TGT | 0.00 | 0.00 | 5,672.0 | -1,717.3 | 473.4 | 1,594,918.15 | 2,420,765.98 | 39° 26' 55.910 N | 107° 33' 4.906 W |
| - plan hits target center | | | | | | | | | |
| - Rectangle (sides W100.0 H40.0 D2,232.0) | | | | | | | | | |

Formations

| Measured Depth (usft) | Vertical Depth (usft) | Name | Lithology | Dip (°) | Dip Direction (°) |
|-----------------------|-----------------------|---------------|-----------|---------|-------------------|
| 3,903.6 | 3,687.0 | Williams Fork | | 0.00 | |
| 6,050.9 | 5,672.0 | Top of Gas | | 0.00 | |
| 6,902.9 | 6,524.0 | Cameo | | 0.00 | |
| 7,982.9 | 7,604.0 | Rollins | | 0.00 | |

Plan Annotations

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | Comment |
|-----------------------|-----------------------|-------------------|--------------|--------------------------------|
| | | +N/-S (usft) | +E/-W (usft) | |
| 1,100.0 | 1,100.0 | 0.0 | 0.0 | Surface Casing |
| 1,200.0 | 1,200.0 | 0.0 | 0.0 | Start Build 3.50 |
| 1,929.3 | 1,905.4 | -154.0 | 42.5 | Start 3392.3 hold at 1929.3 MD |
| 5,321.6 | 4,966.6 | -1,563.3 | 430.9 | Start Drop -3.50 |
| 6,050.9 | 5,672.0 | -1,717.3 | 473.4 | Back to Vertical |
| 6,050.9 | 5,672.0 | -1,717.3 | 473.4 | Start 2232.0 hold at 6050.9 MD |
| 8,282.9 | 7,904.0 | -1,717.3 | 473.4 | TD at 8282.9 |



Well Name: CSF I 42C-16-07-91
Surface Location: CSF I
North American Datum 1983, US State Plane 1983, Colorado Central Zone
Ground Elevation: 7845.0
+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 1596645.71 2420331.54 39° 27' 12.884 N 107° 33' 10.941 W
PAD Est KB CSF I 42C-16-07-91 @ 7860.0usft (PAD Est KB)



Azimuths to True North
Magnetic North: 9.59°
Magnetic Field
Strength: 51647.2snT
Dip Angle: 65.65°
Date: 7/24/2016
Model: IGRF2015

CSF I
CSF I 42C-16-07-91
Design #2
18:00, July 24 2016

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | Shape |
|------------------------|-----|---------|-------|------------|------------|------------------|------------------|---------------------------------|
| 42C-16-07-91 TGT5672.0 | | -1717.3 | 473.4 | 1594918.16 | 2420765.97 | 39° 26' 55.910 N | 107° 33' 4.906 W | Rectangle (Sides: L40.0 W100.0) |

SECTION DETAILS

| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | Dleg | TFace | VSec | Target |
|-----|--------|-------|--------|--------|---------|-------|------|--------|--------|------------------|
| 1 | 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 2 | 1200.0 | 0.00 | 0.00 | 1200.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 3 | 1929.3 | 25.53 | 164.59 | 1905.4 | -154.0 | 42.5 | 3.50 | 164.59 | 159.8 | |
| 4 | 5321.6 | 25.53 | 164.59 | 4966.6 | -1563.3 | 430.9 | 0.00 | 0.00 | 1621.6 | |
| 5 | 6050.9 | 0.00 | 0.00 | 5672.0 | -1717.3 | 473.4 | 3.50 | 180.00 | 1781.3 | 42C-16-07-91 TGT |
| 6 | 8282.9 | 0.00 | 0.00 | 7904.0 | -1717.3 | 473.4 | 0.00 | 0.00 | 1781.3 | |

ANNOTATIONS

| TVD | MD | Annotation |
|--------|--------|--------------------------------|
| 1100.0 | 1100.0 | Surface Casing |
| 1200.0 | 1200.0 | Start Build 3.50 |
| 1905.4 | 1929.3 | Start 3392.3 hold at 1929.3 MD |
| 4966.6 | 5321.6 | Start Drop -3.50 |
| 5672.0 | 6050.9 | Back to Vertical |
| 5672.0 | 6050.9 | Start 2232.0 hold at 6050.9 MD |
| 7904.0 | 8282.9 | TD at 8282.9 |

FORMATION TOP DETAILS

| TVDPath | MDPath | Formation | DipAngle | DipDir |
|---------|--------|---------------|----------|--------|
| 3687.0 | 3903.6 | Williams Fork | 0.00 | |
| 5672.0 | 6050.9 | Top of Gas | 0.00 | |
| 6524.0 | 6902.9 | Cameo | 0.00 | |
| 7604.0 | 7982.9 | Rollins | 0.00 | |

